REMARKS

Claims 1-4 are pending in the application. Independent claim 1 has been amended by the present amendment. The amendment is fully supported by the application as originally filed (see, e.g., FIG. 5 and specification at page 5, line 24 to page 6, line 2).

Applicants' claimed invention is directed to a method for fabricating a thermally-enhanced wafer-level chip scale package including a step of: "performing a singulation process along a straight line to cut apart each chip from the semiconductor wafer such that the thermally-conductive stiffener and the semiconductor wafer are cut together" (*see* step (5) of independent claim 1; *see also* FIG. 5 and specification at page 5, line 24 to page 6, line 2).

As recited in independent claim 1, the singulation process is performed along a straight line, and the thermally-conductive stiffener and the semiconductor wafer are cut together. For example, referring to FIG. 5 of the application, a sawing tool 61 cuts both the semiconductor wafer 10 and the thermally-conductive stiffener 30 (see specification at page 5, line 24 to page 6, line 2). Therefore, in only a single pass, a plurality of integrated circuit chips can be cut apart from the semiconductor wafer, and the thermally-conductive stiffener is cut, nearly simultaneously, into separate pieces that are respectively attached to each of the integrated circuit chips.

Claims 1 and 3 were rejected under 35 USC 103(a) as being unpatentable over U.S. Patent 6,392,290 to Kasem et al. ("Kasem"). Claim 2 was rejected under 35 USC 103(a) as being unpatentable over Kasem in view of U.S. Patent 6,403,882 to Chen et al. ("Chen"). Claim 4 was rejected under 35 USC 103(a) as being unpatentable over Kasem in view of U.S. Patent 6,550,531 to Searls et al. ("Searls"). These rejections are respectfully traversed.

Regarding the rejection of independent claim 1 over Kasem, Kasem does not teach or suggest a method for fabricating a thermally-enhanced wafer-level chip scale package in which a singulation process is performed "along a straight line" to cut a thermally-conductive stiffener

and cut apart each chip from a semiconductor wafer such that the thermally-conductive stiffener and the semiconductor wafer are cut together.

Refering to FIGS. 57A-57C of Kasem, a substrate 227 is sawed at locations designated by reference number 250 "to separate it from the portions of the substrate in other chips on the wafer. The heat sink 245 is left intact" (column 10, lines 35-38 of Kasem). Subsequently, as shown in FIGS. 58A-58C of Kasem, "chip 220 is separated from other chips in the wafer by sawing through the heat sink 245" at locations designated by reference number 252 (column 10, lines 39-42).

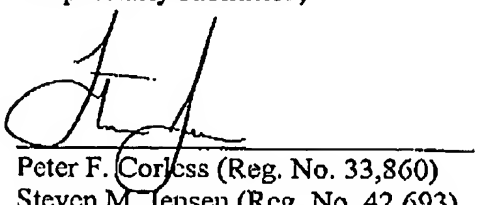
In Kasem, at least two separate cuts are made: (1) the substrate 227 is sawed at the locations 250, and then (2) the heat sink 245 is sawed at the locations 252. It is apparent from FIGS. 57A-57C and 58A-58C that the locations 250 and 252 do not overlap each other. Therefore, Kasem does not teach or suggest that a thermally-conductive stiffener (e.g., the heat sink 245, according to the Office Action) and a semiconductor wafer (e.g., the substrate 227, according to the Office Action) are **cut together** in a straight line, as claimed.

For at least the reasons discussed above, the Kasem reference does not anticipate or otherwise render obvious the Applicants' claimed invention. Therefore, independent claim 1 and dependent claims 2-4 are patentable over Kasem.

Moreover, the Chen and Searls references also do not teach or suggest that a singulation process is performed "along a straight line" to cut a thermally-conductive stiffener and cut apart each chip from a semiconductor wafer such that the thermally-conductive stiffener and the semiconductor wafer are cut together. Therefore, even if Chen and/or Searls were somehow combined with Kasem, such combinations would not teach or suggest the Applicants' claimed invention for at least the reasons discussed above.

It is believed the application is in condition for immediate allowance, which action is earnestly solicited.

Respectfully submitted,



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